

ABSTRACT

A hybrid battery power source for implantable medical use provides a generally constant low internal resistance during discharge and avoids voltage delays of the type that develop as a result of run down-induced resistance increase in Li/SVO cells. The hybrid battery power source utilizes two batteries or cells, one being a primary cell of relatively high energy density and the other being a secondary cell of relatively low internal resistance that is rechargeable. The primary and secondary cells are connected in a parallel arrangement via a voltage boost/charge control circuit that is powered by the primary cell and adapted to charge the secondary cell while limiting charge/discharge excursions thereof in a manner that optimizes its output for high energy medical device use. The energy storage capacitors of the medical device in which the hybrid battery power source is situated are driven by the secondary cell. The primary cell is used to as an energy source for recharging the secondary cell.